REMARKS

This paper is being provided in response to the Office Action dated February 24, 2005 for

the above-referenced application. In this response, Applicants have made minor clarifying

modifications to the specification, cancelled claims 104-108, and amend claims 63, 71, 80, 81,

86, 92, 94 and 103 in order to clarify that which Applicants deem to be the invention. Applicants

respectfully submit that the changes to the specification do not add new matter and that the

amendments to the claims are all supported by the originally filed application.

The objection to the drawings has been addressed by amendments to the specification

provided herein where the reference number 130 is added in accordance with the guidelines set

forth in the Office Action. Accordingly, Applicants respectfully request that this objection be

withdrawn.

The rejection of claims 86-103 under 35 U.S.C. 101 has been addressed by amendments

to the claims herein in accordance with the guidelines provided in the Office Action.

Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 63-81 and 86-103 under 35 U.S.C. 102(b) as being anticipated by

U.S. Patent No. 6,058,389 to Chandra et al. (hereinafter "Chandra") is hereby traversed and

reconsideration thereof is respectfully requested in view of amendments to the claims provided

herein.

Claims 63, as amended herein, recites a method of sending data that includes obtaining a first predetermined value for a sequence number, obtaining blocks of data, where each of the blocks of data corresponds to a packet of data, assigning the first predetermined value as the sequence number to each of the packets of data, and, in response to the sequence number becoming equal to a second predetermined value different from the first predetermined value, acknowledging receipt of the blocks of data corresponding to the packets of data that are assigned the first predetermined value as the sequence number and sending the packets of data that are assigned the first predetermined value as the sequence number to a destination, where packets of data associated with the same sequence number are sent to the destination in an order that is independent of an order in which the packets are obtained. Claims 64-70 depend, directly or indirectly, from claims 63.

Claim 71, as amended herein, recites a method of receiving data, that includes accumulating received packets of data having a sequence number equal to a first predetermined value, obtaining a first indication that the sequence number equals the first predetermined value, obtaining a second indication that the sequence number equals a second predetermined value different from the first predetermined value, and, in response to obtaining the second indication, transferring data corresponding to packets of data having the sequence number equal to the first predetermined value to a receiving device, where packets of data associated with the same sequence number are transferred to the receiving device in an order that is independent of an order in which the packets are accumulated. Claims 72-79 depend, directly or indirectly, from claim 71.

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Claim 80, as amended herein, a method of transferring data that includes obtaining a first predetermined value for a first sequence number, obtaining blocks of data, where each of the blocks of data corresponds to a packet of data, assigning the first predetermined value as the first sequence number to each of the packets of data, in response to the first sequence number becoming equal to a second predetermined value different from the first predetermined value, acknowledging receipt of the blocks of data corresponding to the packets of data that are assigned the first predetermined value as the sequence number and sending the packets of data that are assigned the first predetermined value as the sequence number to a destination, where packets of data associated with the same sequence number are sent to the destination in an order that is independent of an order in which the packets are obtained, accumulating received packets of data having a sequence number equal to the first predetermined value, obtaining a first indication that the sequence number equals the first predetermined value, obtaining a second indication that the sequence number equals a second predetermined value different from the first predetermined value, and, in response to obtaining the second indication, transferring data corresponding to packets of data having the sequence number equal to the first predetermined value to a receiving device, where packets of data associated with the same sequence number are transferred to the receiving device in an order that is independent of an order in which the packets are accumulated.

Claim 81, as amended herein, recites a computer system that includes a host performing a data operation for transferring blocks of data from a first device to a second device, a first WAN blade connected to the first device, a second WAN blade connected to the first WAN blade by a network, the second device being connected to the second WAN blade, where the first WAN

blade includes machine executable code that receives the blocks of data from the first storage device, each of the blocks corresponding to a packet of data, assigns a first predetermined value to each of the packets of data, and, in response to receiving a second predetermined value different than the first predetermined value, acknowledges receipt of the blocks of data associated with the first predetermined value and sending the packets of data that are assigned the first predetermined value as a sequence number to the second device, where packets of data associated with the same sequence number are sent to the destination in an order that is independent of an order in which the packets are received and the second WAN blade includes machine executable code that receives the packets of data associated with the first predetermined value, obtains an indication of the first predetermined value as a sequence number, obtains a second indication that the sequence number equals a second predetermined value different from the first predetermined value, and in response to obtaining the second indication, transfers data corresponding to packets of data having the sequence number equal to the first predetermined value to the second device, where packets of data associated with the same sequence number are transferred to the second device in an order that is independent of an order in which the packets are received.

Claim 86, as amended herein, recites a computer program product, implemented in a computer-readable medium, for sending data. The computer program product is recited as including machine executable code that obtains a first predetermined value for a sequence number, machine executable code that obtains blocks of data, where each of the blocks of data corresponds to a packet of data, machine executable code that assigns the first predetermined value as the sequence number to each of the packets of data, and machine executable code that,

in response to the sequence number becoming equal to a second predetermined value different from the first predetermined value, acknowledges receipt of the blocks of data corresponding to the packets of data that are assigned the first predetermined value as the sequence number and sending the packets of data that are assigned the first predetermined value as the sequence number to a destination, where packets of data associated with the same sequence number are sent to the destination in an order that is independent of an order in which the packets are obtained. Claims 87-93 depend, directly or indirectly, from claim 86.

Claim 94, as amended herein, recites a computer program product, implemented in a computer-readable medium, for receiving data. The computer program product is recited as including machine executable code that accumulates received packets of data having a sequence number equal to a first predetermined value, machine executable code that obtains a first indication that the sequence number equals the first predetermined value, machine executable code that obtains a second indication that the sequence number equals a second predetermined value different from the first predetermined value, and machine executable code that, in response to obtaining the second indication, transfers data corresponding to packets of data having the sequence number equal to the first predetermined value to a receiving device, where packets of data associated with the same sequence number are transferred to the receiving device in an order that is independent of an order in which the packets are accumulated. Claims 95-102 depend, directly or indirectly, from claim 94.

Claim 103, as amended herein, recites a computer program product, implemented in a computer-readable medium, for transferring data. The computer program product is recited as

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including machine executable code that obtains a first predetermined value for a first sequence number, machine executable code that obtains blocks of data, where each of the blocks of data corresponds to a packet of data, machine executable code that assigns the first predetermined value as the first sequence number to each of the packets of data, machine executable code that, in response to the first sequence number becoming equal to a second predetermined value different from the first predetermined value, acknowledges receipt of the blocks of data corresponding to the packets of data that are assigned the first predetermined value as the sequence number and sending the packets of data that are assigned the first predetermined value as the sequence number to a destination, where packets of data associated with the same sequence number are sent to the destination in an order that is independent of an order in which the packets are obtained, machine executable code that accumulates received packets of data having a sequence number equal to the first predetermined value, machine executable code that obtains a first indication that the sequence number equals the first predetermined value, machine executable code that obtains a second indication that the sequence number equals a second predetermined value different from the first predetermined value, and machine executable code that, in response to obtaining the second indication, transfers data corresponding to packets of data having the sequence number equal to the first predetermined value to a receiving device, where packets of data associated with the same sequence number are transferred to the receiving device in an order that is independent of an order in which the packets are accumulated.

Chandra discloses a message queuing system integrated into a database system. Transactions can create messages using an ENQUEUE operation and consume messages by using a DEQUEUE operation. Messages are selected for consumption based upon the control

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information stored with the message (Column 6, lines 59-63), which includes the sequence

numbers of the messages. Column 10, beginning at line 46, discloses:

> Each message in a queue is ordered within the queue. The order of a message is
> defined at the time a queue table is created, and is used for sorting messages
> when a DEQUEUE operation is executed. In response to a DEQUEUE request,
> the system retrieves the first message according to the sort order, skipping
> messages that are to be processed by other transactions.

Applicants respectfully submit that Chandra does not show, teach, or suggest a feature of

the present claimed invention, recited in each of the independent claims in various forms, where

packets of data associated with the same sequence number are sent to the destination in an order

that is independent of an order in which the packets are obtained. Instead, Chandra specifically

discloses that received messages in a queue is ordered within the queue and that the order is used

for sorting messages when a DEQUEUE operation is executed. Thus, Chandra specifically

teaches that messages are removed from the queue in an order that is *dependent* on the order the

messages are stored in the queue which depends on the order that the messages are placed on the

queue.

It is worth noting that, although Chandra also discloses various mechanisms for removing

messages from the queue in an order that differs from the order that messages are stored in the

queue, doing so would avoid other features recited in the claims. For example, if a packet is

removed from the queue out of order (e.g., made a higher priority than other packets), then there

would be no "sending the packets of data that are assigned the first predetermined value as the

sequence number" as recited in each of the independent the claims in various forms.

The present claimed invention provides a mechanism whereby a plurality of data packets may be assigned the same sequence number so that the order of packets having the same sequence number does not matter. The present claimed invention creates an order dependency by assigning packets different sequence numbers so that, for example, if packets A, B, and C were all assigned different sequence numbers, then those packets would be order dependent according to the sequence numbers. However, packets for which the order does not matter may all be assigned the same sequence number and thus, if packets A, A', and A'' were assigned the same sequence number, those packets may be handled in any order. Thus, as recited in the claims as presently amended, packets with the same sequence number are all sent, transferred, etc. in an order that is independent of the order that packets are obtained or accumulated.

For the reasons set forth above, Applicants respectfully request that this rejection be withdrawn.

The rejection of claims 82-85 under 35 U.S.C. 103(a) as being unpatentable over Chandra in view of U.S. Patent No. 6,014,710 to Talluri, et al. (hereinafter "Talluri") is hereby traversed and reconsideration thereof is respectfully requested in view of amendments to the claims contained herein.

Claims 82-85 depend from claim 81, discussed above.

Talluri discloses storage nodes of a network with virtual and physical addresses for mapping data among the storage devices.
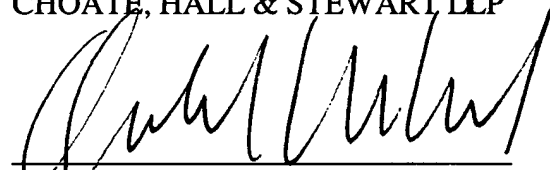
Applicant respectfully submits that the deficiencies of Chandra with respect to claim 81, discussed above, are not overcome by the addition of the Talluri reference. Accordingly, Applicants respectfully request that this rejection be withdrawn.

The rejection of claim 108 has been made moot by cancellation of that claim herein.

Based on the above, applicant respectfully requests that the Examiner reconsider and withdraw all outstanding rejections and objections. Favorable consideration and allowance are earnestly solicited. Should there be any questions after reviewing this paper, the Examiner is invited to contact the undersigned at 617-248-4038.

Respectfully submitted,
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